

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A computer-implemented method for reading a changed data page from a memory of a computer system, said method comprising:
 - making a change to a data page in the memory as a result of a transaction performed by the computer system;
 - storing data associated with the change in a transaction log buffer in the memory of the computer system, but not immediately flushing the transaction log buffer to a persistent data store;
 - marking the changed data page in the memory to indicate on the changed data page that the transaction log buffer has yet to be flushed to the persistent data store;
 - processing a subsequent transaction in which a durable read of at least a portion of the changed data page is to be performed, and before reading the changed data page:
 - determining whether the changed data page is ~~so~~ marked indicating that the transaction log buffer has yet to be flushed to the persistent data store; and
 - if the changed data page is ~~so~~ marked indicating that the transaction log buffer has yet to be flushed to the persistent data store, flushing the transaction log buffer to the persistent data store prior to the changed data page being read.
2. (Previously presented) The method of claim 1 further comprising:
 - unmarking the changed data page when the transaction log buffer is flushed.
3. (Previously presented) The method of claim 2 wherein flushing the transaction log buffer occurs when the changed data page is marked, and wherein said method further comprises reading an unmarked data page as part of a read operation that uses data that has been stored in the persistent data store, without first flushing said transaction log buffer.
4. (Previously presented) The method of claim 1 wherein marking the changed data page comprises writing a value of a bit associated with said changed data page.

5. (Previously presented) The method of claim 4 wherein the bit is stored in said changed data page.
6. (Original) The method of claim 4 wherein the bit is stored in a reference table.
7. (Previously presented) The method of claim 1 wherein marking the changed data page comprises recording, in a reference location associated with said changed data page, a copy of a log sequence number from said transaction log buffer and corresponding to the change to the data page.
8. (Previously presented) The method of claim 7 wherein said copy of the log sequence number is stored in said changed data page.
9. (Previously presented) The method of claim 7 wherein said copy of the log sequence number is stored in a reference table.
10. (Previously presented) The method of claim 7 wherein the copy of the log sequence number is used to identify a transaction in order to cause said transaction to effect the flushing of the transaction log buffer.
11. (Currently Amended) A computer-readable medium having computer-readable instructions for reading a changed data page in a memory of a computer system, said computer-readable instructions comprising instructions for:
 - making a change to a data page in the memory as a result of a transaction performed by the computer system;
 - storing data associated with the change in a transaction log buffer in the memory of the computer system, but not immediately flushing the transaction log buffer to a persistent data store;
 - marking the changed data page in the memory to indicate on the changed data page that the transaction log buffer has yet to be flushed to the persistent data store;

processing a subsequent transaction in which a durable read of at least a portion of the changed data page is to be performed, and before reading the changed data page:

determining whether the changed data page is ~~so~~ marked indicating that the transaction log buffer has yet to be flushed to the persistent data store; and

if the changed data page is ~~so~~ marked indicating that the transaction log buffer has yet to be flushed to the persistent data store, flushing the transaction log buffer to the persistent data store prior to the changed data page being read to ensure data consistency in the event of a system interruption.

12. (Previously presented) The computer-readable medium of claim 11 further comprising instructions for:

unmarking the changed data page when said transaction log buffer is flushed.

13. (Previously presented) The computer-readable medium of claim 12 wherein flushing the transaction log buffer occurs when the changed data page is marked, and wherein a read operation that uses data that has been stored in the persistent data store can read an unmarked data page without first flushing said transaction log buffer.

14. (Previously presented) The computer-readable medium of claim 11 wherein the instructions for marking the changed data page further comprises instructions for changing a value of a bit associated with said changed data page.

15. (Previously presented) The computer-readable medium of claim 14 further comprising instructions for the bit to be stored in said changed data page.

16. (Previously presented) The computer-readable medium of claim 14 further comprising instructions for the bit to be stored in a reference table.

17. (Previously presented) The computer-readable medium of claim 11 wherein the instructions for marking the changed data page further comprises instructions for recording a

copy of a log sequence number, from said transaction log buffer and corresponding to the change to the data page, in a reference location associated with said changed data page.

18. (Previously presented) The computer-readable medium of claim 17 further comprising instructions for said copy of the log sequence number to be stored in said changed data page.

19. (Previously presented) The computer-readable medium of claim 17 further comprising instructions for said copy of the log sequence number to be stored in a reference table.

20. (Previously presented) The computer-readable medium of claim 17 further comprising instructions for the copy of the log sequence number to be used to identify a transaction in order to cause said transaction to effect the flushing of the transaction log buffer.

21. (Currently Amended) A computer system, said computer system comprising:
a processing unit;
a memory;
a persistent data store;
a plurality of data pages stored in the memory; and

 a transaction log buffer stored in the memory wherein when the processing unit changes one of the plurality of data pages while performing a transaction, the processing unit stores data associated with the change in the transaction log buffer, but does not immediately flush the transaction log buffer to the persistent data store, and marks the changed data page to indicate on the changed data page that the transaction log buffer containing said data associated with the change has yet to be flushed to the persistent data store;

 and wherein when the processor thereafter performs a subsequent transaction in which a durable read of at least a portion of the changed data page is to be performed, the processing, before reading the changed data page:

determines whether the changed data page is so marked indicating that the transaction log buffer has yet to be flushed to the persistent data store; and

if the changed data page is so marked indicating that the transaction log buffer has yet to be flushed to the persistent data store, flushes the transaction log to the persistent data store prior to the changed data page being read to ensure data consistency in the event of a system interruption.

22. (Canceled)

23. (Previously presented) The system of claim 21, wherein if the processing unit determines that the changed data page is not so marked, the processing unit reads data from said changed data page without first flushing said transaction log buffer.

24. (Previously presented) The system of claim 23 wherein the plurality of data pages each comprise a bit that is changed when said respective data page is modified by a transaction.

25. (Previously presented) The system of claim 24 wherein each bit is stored in said respective data page.

26. (Previously presented) The system of claim 24 wherein each bit is stored in a reference table.

27. (Previously presented) The system of claim 23, wherein the processing unit records a copy of a log sequence number, from said transaction log buffer and corresponding to said modification of said data page by a transaction, in a reference location associated with said data page when said changed data page is marked.

28. (Previously presented) The system of claim 27 wherein the processing unit uses the copy of the log sequence number to identify the transaction in order to cause said transaction

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to effect flushing of said transaction log buffer and unmarking said changed data page when said associated transaction log buffer is flushed.